

REMARKS

In response to the Office Action mailed September 21, 2005, claims 37-38, 40-41, 43-46, 48-51, 53-54, 56-61 and 63-69 have been amended. Claims 37-72 are pending in the application.

In paragraph 2 on page 2 of the Office Action, the specification was objected to because the application number for the related application should be added.

Applicants traverse the objection, but in the interest of expediting prosecution have amended the specification as suggested. The amendment does not change the scope of the claims.

In paragraph 3 on page 2 of the Office Action, Fig. 4 was objected to because "partitions" was misspelled.

Applicants traverse the objection, but in the interest of expediting prosecution have amended the drawing as suggested. A replacement sheet is attached hereto.

In paragraph 11 on page 6 of the Office Action, claims 12-41 were rejected under 35 U.S.C. § 112, second paragraph because certain language recited in claims 12, 23 and 24 failed to establish a proper relationship between other items in the claim.

Applicants traverse the objection, but in the interest of expediting prosecution have amended the claims to overcome the rejections. The amendment does not change the scope of the claims.

On page 3 of the Office Action, claims 1-11 and 23-42 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,862,668 in view of Moriyama et al.

On page 3 of the Office Action, claims 1-11 and 23-42 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,862,668 in view of Moriyama et al. The Office Action admits that U.S. Patent No. 6,862,668 fails to teach using data objects that represent discrete partitions of the task to be performed and states for each partition.

In paragraph 7 on page 4 of the Office Action, claims 12-22 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 6,862,668 in view of Moriyama et al.

In paragraph 12 on page 6 of the Office Action, claims 1-8, 10-11, 23-30 and 32-42 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Simpson in view of Moriyama et

al. The Office Action admits that Simpson also fails to teach using data objects that represent discrete partitions of the task to be performed and states for each partition.

In paragraph 37 on page 12 of the Office Action, claims 9 and 31 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Simpson in view of Moriyama et al. and further in view of Stuttard et al.

In paragraph 39 on page 13 of the Office Action, claims 12-19 and 21-22 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Pecone in view of Moriyama et al. The Office Action admits that Pecone also fails to teach using data objects that represent discrete partitions of the task to be performed and states for each partition.

In paragraph 43 on page 14 of the Office Action, claim 20 was rejected under 35 U.S.C. § 103 (a) as being unpatentable over Simpson in view of Moriyama et al. and further in view of Stuttard et al.

Applicants traverse the rejections above. The Office Action states that U.S. Patent No. 6,862,668, Simpson or Pecone teach all of the limitations recited in independent claims 1, 12, 23, 34 and 42 except for using data objects that represent discrete partitions of the task to be performed and states for each partition. Nevertheless, the Office Action relies upon Moriyama et al. as teaching the use of data objects that represent discrete partitions of the task to be performed and states for each partition.

Applicants respectfully submit that U.S. Patent No. 6,862,668, Simpson nor Pecone suggest a controller of the plurality of controllers initiates a task to be performed, wherein the controller initiating the task establishes a task coordination data object shared by the plurality of controllers. Rather, U.S. Patent No. 6,862,668 merely teaches the locking of cache coherency locking during volume expansion in a multi-controller storage system. U.S. Patent No. 6,862,668 thus merely safeguards data in a backup area during a volume expansion so that the data is not corrupted when the other controllers are still available.

However, U.S. Patent No. 6,862,668 fails to mention anything about establishing a task coordination data object shared by the plurality of controllers. Rather, the problem be addressed by U.S. Patent No. 6,862,668 is completely different.

Simpson and Pecone also fail to suggest a controller of the plurality of controllers initiates a task to be performed, wherein the controller initiating the task establishes a task coordination data object shared by the plurality of controllers. Simpson merely discloses

interface circuitry that receives coded information from a static decoder and selects a protocol for information transfer. According to Simpson, the protocol includes addressing information having multiplexed row/column addresses for accessing dynamic memories or un-multiplexed addresses for accessing static memories. Thus, Simpson does not suggest establishing a task coordination data object shared by the plurality of controllers.

Likewise, Pecone fails to suggest establishing a task coordination data object shared by the plurality of controllers. Rather, Pecone merely discloses an SIMD architecture overcomes the problem of using only a relatively few processing elements of an array of processing elements to process data relating to a primitive. According to Pecone, an array of processing elements is provided for processing respective data items in accordance with a common received instruction. The processing elements are operably divided into a plurality of processing blocks having at least one processing element, the processing blocks being operable to process respective groups of data items. However, nowhere does Pecone suggest establishing a task coordination data object shared by the plurality of controllers.

Moreover, as described above, U.S. Patent No. 6,862,668, Simpson nor Pecone suggest a task coordination data object that represents discrete partitions of the task to be performed and states for each partition, and wherein a free controller of the plurality of controllers selects a partition of the task available for processing as indicated by the states.

As mentioned earlier, the Office Action admits that U.S. Patent No. 6,862,668, Simpson nor Pecone fail to suggest using data objects that represent discrete partitions of the task to be performed and states for each partition. Rather, the Office Action relies upon Moriyama et al. as teaching the use of data objects that represent discrete partitions of the task to be performed and states for each partition.

However, Moriyama et al. fail to overcome the deficiencies of U.S. Patent No. 6,862,668, Simpson and Pecone. Moriyama et al. fail to suggest that a controller initiating the task establishes a task coordination data object shared by the plurality of controllers, wherein the task coordination data object represents discrete partitions of the task to be performed and states for each partition, and wherein a free controller of the plurality of controllers selects a partition of the task available for processing as indicated by the states.

Moriyama et al. merely addresses the issue of software code being transparent to its environment by providing a means of communication between a first object and a second object.

Thus, Moriyama et al. merely provides a communication mechanism between objects having properties associated with the applications, such as semantics, and associated interfaces. For example, according to Moriyama et al., message delivery is realized in a metaspace communication mechanism, e.g., for local metaspace communication a metaobject (MLocalMailer) is used. The metaspace (mLocal) communication mechanism is realized by the metaobject (MLocalMailer), Scheduler and other modules supporting the execution thereof. Accordingly, application software items transmitted from outside is placed under an environment (metaspace) different from the application software present in a device at the outset, e.g., a VCR. These application software items communicate with each other via a communication OS (metaspace (mLocal)).

Accordingly, Moriyama et al. do not establishes a task coordination data object that is shared by other controllers. Moriyama et al. also fail to suggest a task coordination data object that represents discrete partitions of the task to be performed and states for each partition. While, different objects communicate their state, other controllers do not have the ability to access these objects and are not free to access partitioned tasks so that an uncompleted task may be completed. Moriyama et al. merely provides that the software objects may have different states that facilitate communication between the objects. Therefore, Moriyama et al. merely provides a communication protocol between software objects.

Moreover, Moriyama et al. fail to suggest a task being broken into partitioned tasks and an object that is shared between controllers that allows a controller to complete an uncompleted partitioned task.

Accordingly, U.S. Patent No. 6,862,668, Simpson, Pecone and Moriyama et al., alone of in combination, fail to teach, disclose or suggest the invention as recited in independent claims 1, 12, 23, 34 and 42.

Stuttard et al. fail to overcome the deficiencies of U.S. Patent No. 6,862,668, Simpson, Pecone and Moriyama et al. Stuttard et al. merely discloses a semaphore communication scheme. Stuttard et al. does not mention establishing a task coordination data object shared by a plurality of controllers, wherein the task coordination data object represents discrete partitions of the task to be performed and states for each partition. Stuttard et al. also fails to suggest a free controller selecting a partition of the task available for processing as indicated by the states represented in the task coordination data object. .

Therefore, Applicants respectfully submit that claims 1, 12, 23, 34 and 42 are patentable over U.S. Patent No. 6,862,668, Simpson, Pecone, Moriyama et al. and Stuttard et al.


Dependent claims 2-11, 13-22, 24-33 and 35-41 are also patentable over the references, because they incorporate all of the limitations of the corresponding independent claims 1, 12, 23 and 34 respectively. Further dependent claims 2-11, 13-22, 24-33 and 35-41 recite additional novel elements and limitations. Applicants reserve the right to argue independently the patentability of these additional novel aspects. Therefore, Applicants respectfully submit that dependent claims 2-11, 13-22, 24-33 and 35-41 are patentable over the cited references.

On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicant, David W. Lynch, at 423-757-0264.

Respectfully submitted,

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IN THE DRAWINGS

In accordance with Examiner's suggestions, Applicant has amended Fig. 4. Please accept the attached replacement page.